

Date: Mon, 15 Nov 93 14:13:00 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #1351
To: Info-Hams

Info-Hams Digest Mon, 15 Nov 93 Volume 93 : Issue 1351

Today's Topics:

Better reference materials (was: Elmers are dead, etc. etc.)
 DSP units
 Gary-bashing
 ORBS\$316.MICRO.AMSAT
 ORBS\$316.MISC.AMSAT
 ORBS\$316.WEATH.AMSAT
SAREX Keps & Update 10/28 (3 msgs)
SAREX Keps and Update 10/28

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 15 Nov 93 20:04:09 GMT
From: news-mail-gateway@ucsd.edu
Subject: Better reference materials (was: Elmers are dead, etc. etc.)
To: info-hams@ucsd.edu

>"tooling up" for my general class license, I remember studying "Understanding
>Amateur Radio" from the ARRL. A real fine text that helped me understand
>just what what going on inside the box. I'm not sure anything like that is
>available any more. All the new entrants can do is rely on the Elmers to help
>'em out.

and along with that should be "A Course in Radio Fundamentals".

I have a bad photocopy here made to reduce wear on a worn copy - copyright
1972. Even looking at the book today, it appears that it would serve nicely.

However, we got a light weight "Understanding Basic Electronics" today (not that it isn't needed but there's a place for the serious technical book on general electronics).

was only \$2 in 1972. probably could use some updating for new stuff. I'd probably buy a copy if it isn't filled with lots of fluffy sidebars and cutesy cartoons and art (a distraction in UBE in my opinion).

i would also think a return to book sized books instead of the 8x11 floppy books might help some...the big books are a bit too floppy.

bill wb9ivr

Date: 15 Nov 93 14:46:11 GMT
From: worldbank.org!news@uunet.uu.net
Subject: DSP units
To: info-hams@ucsd.edu

We have a NIR-10 at work's club station, and I'm not overly impressed! I personally wouldn't pay the \$300+ for this unit. The NIR-10 is okay for CW and badnpass applications, but the "white noise" reduction leaves a lot to be desired.

-- Darrell

Date: 15 Nov 93 16:50:59 GMT
From: news-mail-gateway@ucsd.edu
Subject: Gary-bashing
To: info-hams@ucsd.edu

>
>> The manual doesn't give me any help, and I don't seem to be able to
>> find anything which tells me just how to tweak everything and get on
>> the air!!
>
>>Any help?
>
>>Doug N0YVW
>
>Now, if that doesn't say something about the current licensing
>situation, nothing will.
>
>Gary

I don't want to bore everyone by taking my turn at Gary-bashing, but I can't resist. I am brand new to amateur radio. So new, in fact, that I just passed elements 1A, 2, and 3A on Nov 6 (did I say that right, Gary? Forgive me if I'm not as smart as you.) So there have been many times I've wanted to say exactly what Doug said:

What do I do now? or

Any help?

BTW, I'm 30 yrs old and have a BS and an MS in mechanical engineering, so I don't feel like I'm an idiot. But amateur radio is a very diverse hobby and can be as technically challenging as your interests and capabilities will allow. I've easily got a hundred questions to ask someone. And each answer is food for thought and spawns 2 more questions. For the inexperienced amateur, there is no such thing as a stupid question, yet Gary (or people like him) can certainly give a different impression. I wanted to become a ham more than twenty years ago, but I didn't know a single person to turn to for help. At the time, I had no idea there were Elmers out there to help (or even what one was, for that matter). But I can assure you of one thing, if the first ham I ran into was a Gary, I wouldn't be waiting for ticket now.

Hope to work you soon... 10-12 weeks, they tell me :-(

Tommy

Date: 15 Nov 93 18:36:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS\$316.MICRO.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT \$ORBS-316.D
Orbital Elements 316.MICROS

HR AMSAT ORBITAL ELEMENTS FOR THE MICROSATS
FROM WA5QGD FORT WORTH, TX November 12, 1993
BID: \$ORBS-316.D
TO ALL RADIO AMATEURS BT

Satellite: UO-14
Catalog number: 20437
Epoch time: 93314.26240544
Element set: 911
Inclination: 98.6068 deg
RA of node: 36.8706 deg
Eccentricity: 0.0011455

Arg of perigee: 111.4215 deg
Mean anomaly: 248.8190 deg
Mean motion: 14.29802927 rev/day
Decay rate: 1.28e-06 rev/day^2
Epoch rev: 19830
Checksum: 295

Satellite: A0-16

Catalog number: 20439
Epoch time: 93314.25650448
Element set: 711
Inclination: 98.6135 deg
RA of node: 37.8762 deg
Eccentricity: 0.0011873
Arg of perigee: 112.5374 deg
Mean anomaly: 247.7066 deg
Mean motion: 14.29859897 rev/day
Decay rate: 9.3e-07 rev/day^2
Epoch rev: 19831
Checksum: 335

Satellite: D0-17

Catalog number: 20440
Epoch time: 93314.72182474
Element set: 711
Inclination: 98.6156 deg
RA of node: 38.5937 deg
Eccentricity: 0.0011919
Arg of perigee: 110.1078 deg
Mean anomaly: 250.1390 deg
Mean motion: 14.29997154 rev/day
Decay rate: 1.08e-06 rev/day^2
Epoch rev: 19839
Checksum: 311

Satellite: W0-18

Catalog number: 20441
Epoch time: 93314.27363549
Element set: 712
Inclination: 98.6152 deg
RA of node: 38.1661 deg
Eccentricity: 0.0012426
Arg of perigee: 111.7995 deg
Mean anomaly: 248.4510 deg
Mean motion: 14.29974899 rev/day
Decay rate: 9.2e-07 rev/day^2
Epoch rev: 19833
Checksum: 325

Satellite: L0-19

Catalog number: 20442

Epoch time: 93314.26623889

Element set: 711

Inclination: 98.6160 deg

RA of node: 38.3657 deg

Eccentricity: 0.0012902

Arg of perigee: 111.6029 deg

Mean anomaly: 248.6529 deg

Mean motion: 14.30067157 rev/day

Decay rate: 1.07e-06 rev/day²

Epoch rev: 19834

Checksum: 304

Satellite: U0-22

Catalog number: 21575

Epoch time: 93313.78644466

Element set: 411

Inclination: 98.4598 deg

RA of node: 27.4629 deg

Eccentricity: 0.0006935

Arg of perigee: 224.2634 deg

Mean anomaly: 135.7989 deg

Mean motion: 14.36863544 rev/day

Decay rate: 1.17e-06 rev/day²

Epoch rev: 12157

Checksum: 334

Satellite: K0-23

Catalog number: 22077

Epoch time: 93314.21490842

Element set: 308

Inclination: 66.0804 deg

RA of node: 18.4482 deg

Eccentricity: 0.0004639

Arg of perigee: 338.0608 deg

Mean anomaly: 22.0210 deg

Mean motion: 12.86281812 rev/day

Decay rate: .00000000 rev/day²

Epoch rev: 5862

Checksum: 255

Satellite: A0-27

Catalog number: 22825

Epoch time: 93305.38322237

Element set: 208

Inclination: 98.6783 deg

RA of node: 18.2116 deg
Eccentricity: 0.0008754
Arg of perigee: 149.2634 deg
Mean anomaly: 210.9045 deg
Mean motion: 14.27587035 rev/day
Decay rate: 5.7e-07 rev/day^2
Epoch rev: 517
Checksum: 300

Satellite: IO-26
Catalog number: 22826
Epoch time: 93305.66096033
Element set: 209
Inclination: 98.6791 deg
RA of node: 18.4934 deg
Eccentricity: 0.0009019
Arg of perigee: 149.5441 deg
Mean anomaly: 210.6266 deg
Mean motion: 14.27689613 rev/day
Decay rate: 7.6e-07 rev/day^2
Epoch rev: 522
Checksum: 311

Satellite: KO-25
Catalog number: 22830
Epoch time: 93314.69145093
Element set: 211
Inclination: 98.5800 deg
RA of node: 27.0255 deg
Eccentricity: 0.0012337
Arg of perigee: 94.9544 deg
Mean anomaly: 265.3046 deg
Mean motion: 14.28015541 rev/day
Decay rate: 1.11e-06 rev/day^2
Epoch rev: 651
Checksum: 267

/EX

Date: 15 Nov 93 18:41:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS\$316.MISC.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT \$ORBS-316.M
Orbital Elements 316.MISC

HR AMSAT ORBITAL ELEMENTS FOR MANNED AND MISCELLANEOUS SATELLITES
FROM WA5QGD FORT WORTH, TX November 12, 1993
BID: \$ORBS-316.M
TO ALL RADIO AMATEURS BT

Satellite: MIR
Catalog number: 16609
Epoch time: 93314.97077396
Element set: 572
Inclination: 51.6183 deg
RA of node: 202.0455 deg
Eccentricity: 0.0005693
Arg of perigee: 23.2148 deg
Mean anomaly: 336.9078 deg
Mean motion: 15.59529397 rev/day
Decay rate: 4.226e-05 rev/day²
Epoch rev: 3054
Checksum: 314

Satellite: HUBBLE
Catalog number: 20580
Epoch time: 93307.41913862
Element set: 359
Inclination: 28.4692 deg
RA of node: 246.8298 deg
Eccentricity: 0.0004679
Arg of perigee: 70.9135 deg
Mean anomaly: 289.1966 deg
Mean motion: 14.92902547 rev/day
Decay rate: 9.06e-06 rev/day²
Epoch rev: 19233
Checksum: 335

Satellite: GRO
Catalog number: 21225
Epoch time: 93314.39830284
Element set: 220
Inclination: 28.4634 deg
RA of node: 313.5049 deg
Eccentricity: 0.0075239
Arg of perigee: 9.9355 deg
Mean anomaly: 350.2723 deg
Mean motion: 15.58504747 rev/day
Decay rate: 1.6953e-04 rev/day²
Epoch rev: 2313
Checksum: 290

Satellite: UARS
Catalog number: 21701
Epoch time: 93309.31219655
Element set: 411
Inclination: 56.9841 deg
RA of node: 336.0504 deg
Eccentricity: 0.0005602
Arg of perigee: 88.9850 deg
Mean anomaly: 271.1633 deg
Mean motion: 14.96217444 rev/day
Decay rate: -2.650e-05 rev/day^2
Epoch rev: 11741
Checksum: 279

Satellite: POSAT
Catalog number: 22829
Epoch time: 93289.11726978
Element set: 204
Inclination: 98.6763 deg
RA of node: 2.0610 deg
Eccentricity: 0.0010043
Arg of perigee: 184.4594 deg
Mean anomaly: 175.6498 deg
Mean motion: 14.27975951 rev/day
Decay rate: 7.2e-07 rev/day^2
Epoch rev: 286
Checksum: 317

/EX

Date: 15 Nov 93 18:39:00 GMT
From: news-mail-gateway@ucsd.edu
Subject: ORBS\$316.WEATH.AMSAT
To: info-hams@ucsd.edu

SB KEPS @ AMSAT \$ORBS-316.W
Orbital Elements 316.WEATHER

HR AMSAT ORBITAL ELEMENTS FOR WEATHER SATELLITES
FROM WA5QGD FORT WORTH,TX November 12, 1993
BID: \$ORBS-316.W
TO ALL RADIO AMATEURS BT

Satellite: NOAA-9
Catalog number: 15427
Epoch time: 93300.72651427

Element set: 608
Inclination: 99.0865 deg
RA of node: 343.0970 deg
Eccentricity: 0.0014906
Arg of perigee: 151.8994 deg
Mean anomaly: 208.2999 deg
Mean motion: 14.13555759 rev/day
Decay rate: 9.9e-07 rev/day^2
Epoch rev: 45749
Checksum: 353

Satellite: NOAA-10
Catalog number: 16969
Epoch time: 93308.02577200
Element set: 508
Inclination: 98.5151 deg
RA of node: 318.8770 deg
Eccentricity: 0.0012448
Arg of perigee: 270.5362 deg
Mean anomaly: 89.4395 deg
Mean motion: 14.24841200 rev/day
Decay rate: 1.07e-06 rev/day^2
Epoch rev: 37053
Checksum: 298

Satellite: MET-2/17
Catalog number: 18820
Epoch time: 93313.86326152
Element set: 210
Inclination: 82.5401 deg
RA of node: 83.0499 deg
Eccentricity: 0.0017920
Arg of perigee: 77.7053 deg
Mean anomaly: 282.6113 deg
Mean motion: 13.84696783 rev/day
Decay rate: 6.0e-07 rev/day^2
Epoch rev: 29200
Checksum: 293

Satellite: MET-3/2
Catalog number: 19336
Epoch time: 93313.98312645
Element set: 210
Inclination: 82.5385 deg
RA of node: 118.8020 deg
Eccentricity: 0.0017396
Arg of perigee: 88.4059 deg
Mean anomaly: 271.9055 deg

Mean motion: 13.16962219 rev/day
Decay rate: 4.3e-07 rev/day^2
Epoch rev: 25440
Checksum: 300

Satellite: NOAA-11
Catalog number: 19531
Epoch time: 93307.95823027
Element set: 408
Inclination: 99.1482 deg
RA of node: 286.6377 deg
Eccentricity: 0.0012789
Arg of perigee: 46.5585 deg
Mean anomaly: 313.6658 deg
Mean motion: 14.12928630 rev/day
Decay rate: 1.39e-06 rev/day^2
Epoch rev: 26340
Checksum: 329

Satellite: MET-2/18
Catalog number: 19851
Epoch time: 93314.44174536
Element set: 211
Inclination: 82.5186 deg
RA of node: 318.3186 deg
Eccentricity: 0.0015511
Arg of perigee: 116.9458 deg
Mean anomaly: 243.3286 deg
Mean motion: 13.84348503 rev/day
Decay rate: 4.2e-07 rev/day^2
Epoch rev: 23742
Checksum: 302

Satellite: MET-3/3
Catalog number: 20305
Epoch time: 93313.78275180
Element set: 912
Inclination: 82.5475 deg
RA of node: 62.1477 deg
Eccentricity: 0.0016698
Arg of perigee: 110.3082 deg
Mean anomaly: 249.9836 deg
Mean motion: 13.16023732 rev/day
Decay rate: 4.3e-07 rev/day^2
Epoch rev: 19425
Checksum: 296

Satellite: MET-2/19

Catalog number: 20670
Epoch time: 93314.71352062
Element set: 711
Inclination: 82.5501 deg
RA of node: 22.0091 deg
Eccentricity: 0.0017060
Arg of perigee: 42.7604 deg
Mean anomaly: 317.4880 deg
Mean motion: 13.84180249 rev/day
Decay rate: 1.5e-07 rev/day^2
Epoch rev: 17039
Checksum: 262

Satellite: FY-1/2

Catalog number: 20788
Epoch time: 93314.27490495
Element set: 816
Inclination: 98.8528 deg
RA of node: 336.2622 deg
Eccentricity: 0.0014224
Arg of perigee: 264.8255 deg
Mean anomaly: 95.1288 deg
Mean motion: 14.01329924 rev/day
Decay rate: 3.52e-06 rev/day^2
Epoch rev: 16304
Checksum: 314

Satellite: MET-2/20

Catalog number: 20826
Epoch time: 93314.40511387
Element set: 710
Inclination: 82.5262 deg
RA of node: 320.0564 deg
Eccentricity: 0.0012856
Arg of perigee: 307.6374 deg
Mean anomaly: 52.3617 deg
Mean motion: 13.83563412 rev/day
Decay rate: 4.0e-07 rev/day^2
Epoch rev: 15750
Checksum: 269

Satellite: MET-3/4

Catalog number: 21232
Epoch time: 93311.55017164
Element set: 613
Inclination: 82.5434 deg
RA of node: 326.2919 deg
Eccentricity: 0.0013431

Arg of perigee: 27.8915 deg
Mean anomaly: 332.2926 deg
Mean motion: 13.16456437 rev/day
Decay rate: 4.3e-07 rev/day^2
Epoch rev: 12219
Checksum: 275

Satellite: NOAA-12
Catalog number: 21263
Epoch time: 93308.09045315
Element set: 815
Inclination: 98.6458 deg
RA of node: 335.5750 deg
Eccentricity: 0.0012543
Arg of perigee: 165.4607 deg
Mean anomaly: 194.6943 deg
Mean motion: 14.22328054 rev/day
Decay rate: 1.89e-06 rev/day^2
Epoch rev: 12852
Checksum: 306

Satellite: MET-3/5
Catalog number: 21655
Epoch time: 93313.85451209
Element set: 611
Inclination: 82.5506 deg
RA of node: 271.6301 deg
Eccentricity: 0.0014550
Arg of perigee: 26.1377 deg
Mean anomaly: 334.0477 deg
Mean motion: 13.16825241 rev/day
Decay rate: 4.3e-07 rev/day^2
Epoch rev: 10759
Checksum: 276

Satellite: MET-2/21
Catalog number: 22782
Epoch time: 93314.66191362
Element set: 210
Inclination: 82.5507 deg
RA of node: 19.6100 deg
Eccentricity: 0.0023265
Arg of perigee: 115.4347 deg
Mean anomaly: 244.9226 deg
Mean motion: 13.82991020 rev/day
Decay rate: 9.3e-07 rev/day^2
Epoch rev: 988
Checksum: 282

/EX

Date: 15 Nov 93 19:38:48 GMT
From: news-mail-gateway@ucsd.edu
Subject: SAREX Keps & Update 10/28
To: info-hams@ucsd.edu

>To the packet gateways: if possible, please put a trap...

How about disallowing automated packet to internet mailing list gateways?

On the bright side, those October 28th elements are now some of the best distributed elements...

Date: 15 Nov 93 15:03:26 GMT
From: news-mail-gateway@ucsd.edu
Subject: SAREX Keps & Update 10/28
To: info-hams@ucsd.edu

R:931115/1642Z @:VK1KCM.ACT.AUS.OC [Canberra, ACT] \$:9311021750.A
R:931113/1340Z @:VK3BBS.VIC.AUS.OC [St Albans] #:110189 Z:3021 FBB5.15
R:931113/0832Z @:F6CNB.#SETX.TX.USA.NA [SugarLand] #:64606 Z:77478
R:931112/1005Z @:K5DI.NM.USA.NA [Las Cruces] #:7152 369mn 57s9311021750.A
R:931111/1432Z @:KC7CG.AZ.USA.NA #:22868
R:931111/1421Z @:W7JHX.AZ.USA.NA [Tucson] #:549 Z:85710 FBB5.15
R:931109/0328Z @:N0IFE.#NCMO.MO.USA.NA [Moberly, Mo] #:53798 Z:65270 FBB5.15
R:931105/0807Z @:KJ4LQ.#TIDE.VA.USA Chesapeake #:50267 Z:23320
R:931104/0205Z @:NL7NC.#NAK.AK.USA.NA [Anchorage,AK] #:77412 Z:99504 FBB5.15
R:931102/2041z @:WA8URE.#SWMI.MI.USA.NA Grand Rapids #:36668 Z:49508

SB SAREX @ AMSAT \$STS-58.025
SAREX Keps & Update: 10/28

Thursday 10/28/93 @ 08:00 UTC

The last school group contact was completed yesterday. The Portsmouth HS in Portsmouth, New Hampshire had a telebridge contact using stations in California (Ralph Warner, N6MNN) and Texas (Bob Douglas, W5GEL). The students asked 5 questions during this bridge contact.

Hams across the U.S. and around the world continue to work the Shuttle

Columbia on both voice and packet. Moreover, the completion of school group contacts has cleared several school backup passes for possible general QSO opportunities. While the SAREX Working Group cannot fully guarantee availability, there is a high probability that the STS-58 crew will be ready to take general call. on these passes. Two of these "scheduled" passes remain. These include orbit 178 at MET 11 days 1 hour 42 minutes (10/29 at 16:35 UTC) and orbit 192 at MET 11 days 22 hours and 29 minutes (10/30 at 13:22 UTC). Please note that the astronauts operated voice during yesterday's "scheduled" pass which occurred on 10/27 at 14:59 UTC (Orbit 145). Also note that hams on the ground heard or worked the Shuttle Columbia crew on several other orbits yesterday.

Element set GSFC-031, generated by Ron Parise, WA4SIR, is the official SAREX set for today. Please note that there is only a six second difference between element set GSFC-025 (released two days ago) and element set GSFC-031.

STS-58

```
1 22869U 93065A    93300.17699070 0.00133671  99048-5  24183-3 0   318
2 22869  39.0252  71.9896 0012817  34.2105 325.9529 16.00500857  1383
```

Satellite: STS-58

Catalog number: 22869

Epoch time: 93300.17699070 (27 OCT 93 04:14:51.** UTCset:

GSFC-031

Inclination: 39.0252 deg

RA of node: 71.9896 deg

Eccentricity: 0.0012817

Arg of perigee: 34.2105 deg

Mean anomaly: 325.9529 deg

Mean motion: 16.00500857 rev/day

Decay rate: 0.13E-02 rev/day*2

Epoch rev: 138

Space Shuttle Flight STS-58

Keplerian Elements

SAXIS: 6651.1630 Km

Apogee Alt: 281.30 Km

Perigee Alt: 264.25 Km

NOTE - This element set is based on NORAD element set # 031.

The spacecraft has been propagated to the next ascending node, and the orbit number has been adjusted to bring it into agreement with the NASA numbering convention.

Submitted by F, KA3HDO for the SAREX Working Group

Date: 15 Nov 93 16:39:51 GMT

From: news-mail-gateway@ucsd.edu

Subject: SAREX Keps & Update 10/28

To: info-hams@ucsd.edu

R:931115/1900Z @:VK1KCM.ACT.AUS.OC [Canberra, ACT] \$:29256_W70EK
R:931115/1139Z @:VK3BBS.VIC.AUS.OC [St Albans] #:28632 Z:3021 FBB5.15
R:931115/0819Z @:F6CNB.#SETX.TX.USA.NA [SugarLand] #:65142 Z:77478
R:931114/0624Z @:K5DI.NM.USA.NA [Las Cruces] #:7500 318mn 43s29256_W70EK
R:931114/0635Z @:KC7CG.AZ.USA.NA #:23309
R:931113/1948Z @:W7JHX.AZ.USA.NA [Tucson] #:667 Z:85710 FBB5.15
R:931111/0639Z @:N0IFE.#NCM0.MO.USA.NA [Moberly, Mo] #:54193 Z:65270 FBB5.15
R:931107/2151Z @:KJ4LQ.#TIDE.VA.USA Chesapeake #:51383 Z:23320
R:931107/0732Z @:N7IJI.#CLT1.NC.USA.NA Z:28209 #:76154 \$:29256_W70EK
R:931105/1624z 60177@KT0H.#NECO.CO.USA [DATA HUB CO]
R931105/1608Z @:W0RA.#SECO.CO.USA.NA [YODER] FBB5.14d #:83466

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 29256 ; Thu, 04 Nov 93 03:46:32 GMT
Date: Thu, 04 Nov 93 03:44:57 UTC
Message-Id: <29255_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 29255 ; Thu, 04 Nov 93 02:45:47 GMT
Date: Thu, 04 Nov 93 02:44:45 UTC
Message-Id: <29254_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 29254 ; Thu, 04 Nov 93 01:45:29 GMT
Date: Thu, 04 Nov 93 01:44:47 UTC
Message-Id: <29253_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 29253 ; Thu, 04 Nov 93 00:46:29 GMT
Date: Thu, 04 Nov 93 00:45:06 UTC

Message-Id: <2949_w7oek@w7oek.bbs>
From: abfhib%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 29249 ; Thu, 04 Nov 93 00:15:42 GMT
Date: Thu, 04 Nov 93 00:15:11 UTC
Message-Id: <29228_w7oek@w7oek.bbs>
From: abfhib%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 29228 ; Wed, 03 Nov 93 22:47:23 GMT
Date: Wed, 03 Nov 93 22:46:25 UTC
Message-Id: <29207_w7oek@w7oek.bbs>
From: abfhib%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 29207 ; Wed, 03 Nov 93 21:45:05 GMT
Date: Wed, 03 Nov 93 21:44:35 UTC
Message-Id: <29164_w7oek@w7oek.bbs>
From: abfhib%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>
id 29164 ; Wed, 03 Nov 93 20:56:01 GMT
Date: Wed, 03 Nov 93 20:55:40 UTC
Message-Id: <29150_w7oek@w7oek.bbs>
From: abfhib%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 29150 ; Wed, 03 Nov 93 18:45:47 GMT
Date: Wed, 03 Nov 93 18:45:40 UTC
Message-Id: <29148_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHb%W70EK@WD4ECK.AMPR.ORG>

id 29148 ; Wed, 03 Nov 93 18:03:46 GMT
Date: Wed, 03 Nov 93 18:03:22 UT
Message-Id: <29147_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHb%W70EK@WD4ECK.AMPR.ORG>

id 29147 ; Wed, 03 Nov 93 17:12:03 GMT
Date: Wed, 03 Nov 93 17:11:44 UTC
Message-Id: <29136_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHb%W70EK@WD4ECK.AMPR.ORG>

id 29136 ; Wed, 03 Nov 93 15:44:49 GMT
Date: Wed, 03 Nov 93 15:44:44 UTC
Message-Id: <29134_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHb%W70EK@WD4ECK.AMPR.ORG>

id 29134 ; Wed, 03 Nov 93 14:45:08 GMT
Date: Wed, 03 Nov 93 14:44:47 UTC
Message-Id: <29132_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 29132 ; Wed, 03 Nov 93 13:44:32 GMT
Date: Wed, 03 Nov 93 13:44:45 UTC
Message-Id: <29131_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 29131 ; Wed, 03 Nov 93 12:44:39 GMT
Date: Wed, 03 Nov 93 12:44:44 UTC
Message-Id: <29126_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 29126 ; Wed, 03 Nov 93 11:44:24 GMT
Date: Wed, 03 Nov 93 11:44:43 UTC
Message-Id: <29125_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 29125 ; Wed, 03 Nov 93 10:44:31 GMT
Date: Wed, 03 Nov 93 10:44:47 UTC
Message-Id: <2917_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 29117 ; Wed, 03 Nov 93 09:43:27 GMT
Date: Wed, 03 Nov 93 09:43:46 UTC

Message-Id: <29091_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHHB%W70EK@WD4ECK.AMPR.ORG>

id 29091 ; Wed, 03 Nov 93 08:56:04 GMT
Date: Wed, 03 Nov 93 08:55:59 UTC
Message-Id: <29080_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHHB%W70EK@WD4ECK.AMPR.ORG>

id 29080 ; Wed, 03 Nov 93 07:45:09 GMT
Date: Wed, 03 Nov 93 07:45:11 UTC
Message-Id: <29079_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHHB%W70EK@WD4ECK.AMPR.ORG>

id 29079 ; Wed, 03 Nov 93 07:03:53 GMT
Date: Wed, 03 Nov 93 07:03:31 UTC
Message-Id: <29066_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHHB%W70EK@WD4ECK.AMPR.ORG>

id 29066 ; Wed, 03 Nov 93 05:43:31 GMT
Date: Wed, 03 Nov 93 05:44:04 UTC
Message-Id: <29062_w7oek@w7oek.bbs>
From: abfhhb%w7oek@wd4eck.ampr.org

To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 29062 ; Wed, 03 Nov 93 02:45:25 GMT
Date: Wed, 03 Nov 93 02:46:01 UTC
Message-Id: <29050_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 29050 ; Wed, 03 Nov 93 02:01:26 GMT
Date: Wed, 03 Nov 93 02:01:50 UTC
Message-Id: <29047_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 29047 ; Wed, 03 Nov 93 01:09:32 GMT
Date: Wed, 03 Nov 93 01:09:40 UTC
Message-Id: <29041_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 29041 ; Tue, 02 Nov 93 21:42:27 GMT
Date: Tue, 02 Nov 93 21:42:59 UTC
Message-Id: <28985_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org

To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 28985 ; Tue, 02 Nov 93 20:47:06 GMT
Date: Tue, 02 Nov 93 20:47:48 UTC
Message-Id: <28973_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 28973 ; Tue, 02 Nov 93 19:58:01 GMT
Date: Tue, 02 Nov 93 19:58:49 UTC
Message-Id: <28968_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 28968 ; Tue, 02 Nov 93 18:43:20 GMT
Date: Tue, 02 Nov 93 18:44:09 UTC
Message-Id: <28942_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 28942 ; Tue, 02 Nov 93 17:43:53 GMT
Date: Tue, 02 Nov 93 17:44:47 UTC
Message-Id: <28937_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org

To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 28937 ; Tue, 02 Nov 93 15:43:49 GMT
Date: Tue, 02 Nov 93 15:44:50 UTC
Message-Id: <28936_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 28936 ; Tue, 02 Nov 93 14:43:54 GMT
Date: Tue, 02 Nov 93 14:44:51 UTC
Message-Id: <28935_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 28935 ; Tue, 02 Nov 93 13:43:53 GMT
Date: Tue, 02 Nov 93 13:44:50 UTC
Message-Id: <28933_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 28933 ; Tue, 02 Nov 93 12:42:37 GMT
Date: Tue, 02 Nov 93 12:43:53 UTC
Message-Id: <28932_w7oek@w7oek.bbs>
From: abfhb%w7oek@wd4eck.ampr.org

To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

Received: from WD4ECK.AMPR.ORG by W70EK.AMPR.ORG with SMTP originator
<ABFHB%W70EK@WD4ECK.AMPR.ORG>

id 28932 ; Tue, 02 Nov 93 12:09:45 GMT
X-Forwarded-To: W70EK

Date: 28 Oct 93 19:00:00 UTC

Message-Id: <931028050312@w70ek.bbs>
From: abfhb@wa8ure.#swmi.mi.usa.na
To: ans@amsat.org
Subject: SAREX Keps & Update 10/28
X-BBS-Msg-Type: B

SB SAREX @ AMSAT \$STS-58.025
SAREX Keps & Update: 10/28

Thursday 10/28/93 @ 08:00 UTC

The last school group contact was completed yesterday. The Portsmouth HS in Portsmouth, New Hampshire had a telebridge contact using stations in California (Ralph Warner, N6MNN) and Texas (Bob Douglas, W5GEL). The students asked 5 questions during this bridge contact.

Hams across the U.S. and around the world continue to work the Shuttle Columbia on both voice and packet. Moreover, the completion of school group contacts has cleared several school backup passes for possible general QSO opportunities. While the SAREX Working Group cannot fully guarantee availability, there is a high probability that the STS-58 crew will be ready to take general calls over the continental U.S. on these passes. Two of these "scheduled" passes remain. These include orbit 178 at MET 11 days 1 hour 42 minutes (10/29 at 16:35 UTC) and orbit 192 at MET 11 days 22 hours and 29 minutes (10/30 at 13:22 UTC). Please note that the astronauts operated voice during yesterday's "scheduled" pass which occurred on 10/27 at 14:59 UTC (Orbit 145). Also note that hams on

the ground heard or worked the Shuttle Columbia crew on several other orbits yesterday.

Element set GSFC-031, generated by Ron Parise, WA4SIR, is the official SAREX

set for today. Please note that there is only a six second difference between element set GSFC-025 (released two days ago) and element set GSFC-031.

STS-58

1 22869U 93065A 93300.17699070 0.00133671 99048-5 24183-3 0 318
2 22869 39.0252 71.9896 0012817 34.2105 325.9529 16.00500857 1383

Satellite: STS-58

Catalog number: 22869

Epoch time:	93300.17699070	(27 OCT 93 04:14:51.** UTC)
Element set:	GSFC-031	
Inclination:	39.0252 deg	
RA of node:	71.9896 deg	Space Shuttle Flight STS-58
Eccentricity:	0.0012817	Keplerian Elements
Arg of perigee:	34.2105 deg	
Mean anomaly:	325.9529 deg	
Mean motion:	16.00500857 rev/day	Semi-major Axis: 6651.1630 Km
Decay rate:	0.13E-02 rev/day*2	Apogee Alt: 281.30 Km
Epoch rev:	138	Perigee Alt: 264.25 Km

NOTE - This element set is based on NORAD element set # 031.
The spacecraft has been propagated to the next ascending node, and the orbit number has been adjusted to bring it into agreement with the NASA numbering convention.

Submitted by Frank H. Bauer, KA3HDO for the SAREX Working Group

Date: 15 Nov 93 20:19:01 GMT
From: news-mail-gateway@ucsd.edu
Subject: SAREX Keps and Update 10/28
To: info-hams@ucsd.edu

i think i support expiration dates on packet messages now...wonder what the record is for this sort of thing?

bill wb9ivr

End of Info-Hams Digest V93 #1351
